THE PROFESSIONAL GEOGRAPHER

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GEOGRAPHY AND THE LIBERAL ARTS COLLEGE*

Homer Aschmann
University of California, Riverside

A recent survey of the status of geography in the colleges of California produced the remarkable information that there is no geography taught by geographers in any of the many small private liberal arts colleges in the state. On the other hand, the publicly supported institutions, the universities, state colleges, and junior colleges and the two large private universities do accord geography a position in their curricula. Geography as a formal discipline does make its way into the curricula of some eastern and midwestern private colleges, but this phase of education is one where the discipline is notably ill-represented.

This neglect is cause for concern among academic geographers. Though there has been a notable expansion in the opportunities for employment of geographers in non-teaching fields, the discipline is still dominantly an academic one. The failure to maintain a position in so important a fraction of the academic realm is the loss of an opportunity and perhaps even a threat to geography in the whole field of American education.

The comments that follow are intended as an exhortation, particularly to younger men whose still limited financial responsibilities might permit them to accept a lower salary than they might otherwise command and an opportunity to work at a hard, challenging, and rewarding task.

In California, and probably in the United States as a whole, state or teachers colleges currently employ the greatest number of academic geographers. Reference to such a man as Mark Jefferson should assure anyone that the teachers college environment does not preclude a person's making contributions to the intellectual life of our society at any level. On the other hand most geographers in state colleges and teachers colleges face a problem of either developing a serious interest in what can be done with geography in elementary and high school classes, or feeling that their highest academic talents are not being appreciated. As teachers colleges expand into state colleges or gain some more dignified title, an effort to create professional programs as far removed from education as possible often develops.

*This paper was read at the meeting of the California Council of Geography Teachers in May 1957 and published in their mimeographed Bulletin of June 1957.

In many of the state universities and even in some private ones geography maintains its position in large part by providing lower division service courses for separate professional schools, notably education and business. A tragically small fraction of the uncommitted, liberal arts students are exposed to geography classes, although this group ultimately provides a major share of the best graduate students. Even much of the graduate work of many departments is organized to provide training that will make their products attractive to the government or private industry.

That such efforts are worth while is not questioned. That they are the only profitable directions for development is. Many of us became geographers when we discovered, in an accidentally taken college course, that here was a discipline organized to concern itself with the intricate and poorly understood relations between human societies and natural environments. I for one hope to continue devoting my best intellectual efforts to this question. Working as a teacher, I hope to expose this fascinating problem, together with such clarifications and insights into it as have so far been gained, to my students. A small number of them may become geographers. Most will not, and whether they sell insurance or operate as business executives, politicians or labor leaders, I am convinced that they will be better citizens and lead intellectually richer lives for having wondered about man's place in the real world.

The liberal arts colleges, with their strong emphasis on the humanities, subjects which ordinarily do not lead directly to predetermined professions, make the same claim. They can also point with pride to the spectacularly large fraction of the leaders in our society who are products of this type of education. My concern then is why geography has not participated more effectively in the curricula of these colleges. Administrators of such colleges will exert vigorous efforts to secure the services of a distinguished historian or biologist, but feel no need for a geographer. Those of us who want to maintain a strong academic place for geography should be concerned that they be made to feel such a need. A consideration of why the liberal arts colleges use so few geographers is a necessary first step in this program.

One aspect is financial and historical. The scarcity of good geographers in relation to the sudden demand that developed in 1946 made it possible to find positions paying good salaries. The universities skimmed what they took to be the cream, and state supported teachers colleges could far outbid the notoriously poor private schools for the best of what was left. By the time the bottom of the pile was reached, the liberal arts schools, as proud and selective of their faculties as the best universities, were no longer interested.

The vulnerability to economic pressure in selecting our employment is something almost all of us share, and no sermon is likely to make us abandon our families' welfare for any cause. It must be noted,

however, that one result was that many distinguished schools decided that since virtually none of their peer institutions were appointing geographers, this was not a field for which they needed to strain their budgets. In the more recent past when there were good men looking for academic jobs, few found the liberal arts colleges a receptive market.

The other major difficulty is both more basic and more subject to modification. It concerns what geographers have to teach and on what they do research. From the standpoint of the liberal arts school, two recent developments in much of American geography produce a negative impression. One is the emphasis on the detailed survey which has utility in planning operations, but is basically engineers' work. The graduate schools that emphasize such training as the only work of real practical importance will find their competition from engineers on the latter's home ground. The other tendency is to simplify geographic relationships and concepts so that they may be presented effectively in the elementary school, to make dubious generalizations about complex cultural processes and to slide past the physical relationships that lend themselves to numerical or mathematical statement. This is certainly a worthy social end, but geographic relationships are not all subject to such simplification; they are as complex as reality in this world.

Seen in this sense the fullest understanding of the physical processes which affect the natural landscape, the geologic history under which it has developed, and the cultural history through which man has come to evaluate and use his environment are essential prerequisites to sound geographic study. In this direction lies academic respectability. That other disciplines have made great strides in advancing this knowledge, and that the effort necessary to command the data is enormous, is perfectly true. A study that pretends to go beyond the frontier of knowledge will be long and arduous. Intimate contact with other disciplines will be both a prerequisite and a product. But as a result of a number of such studies, those of Carl Sauer in the field of culture history, and of Warren Thornthwaite and John Leighly on the ecological aspects of climate are good examples, scholars in other fields will come to appreciate and seek the geographer's insights, both in such impractical and exciting areas as culture history, and in questions of social policy such as conservation and land use zoning. With their close interdisciplinary relationships, small colleges are excellent places in which to carry on a long term study that demands the data and methods of a number of disciplines. The geographer may not only receive from, but make contributions to the intellectual life of his academic community.

Most students who take geography in a liberal arts college as in other collegiate institutions will be majoring in other fields. They will be best served if they are exposed to the complexity of the world not to a simple system of relationships supported by nice examples. As a discipline geography is unusually well adapted to providing the student with a combination of specific problems, a solution to which can be

gained by disciplined thinking, and broader questions permitting an exercise of his imagination and synthetic powers; two activities especially vital in gaining a liberal education. The study of geography seems to have an almost unique position in that these two approaches must be balanced for its effective pursuit. (Physics, for example, emphasizes the former, literary studies, the latter.) The effective teaching of geography can only be carried on if this balance is maintained. The concepts of physical geography become more satisfying, and thus attractive to the student, the more precisely the observations of the earth can be related to experimental physics and biology. These concepts that are subject to mathematical expression are really the simpler ones. Conversely, in dealing with the more complex phenomena of cultural geography, the historical and specific treatment will stand a more rigorous examination than the enunciation of some principles of human geography and their support by some highly selective examples. On the basis of a mass of specific data presented in a course the instructor can invent a principle or two as samples; the class can do likewise. This provides opportunity for a real dialogue, with either side using empirical data to puncture the other's theories.

Though much remains to be done, and a major program will only be initiated next fall, this pattern seems to be working successfully at Riverside. A rewarding aspect is the number of physics, chemistry, and mathematics majors, including some extraordinarily able ones, who elect geography as part of their general education programs, as well as the geologists and biologists who seek it as support for their own major studies.

The answer to a question on how this approach relates to teaching geography on the elementary and secondary levels, can only be that it should be worth trying. There is no worse sin than aiming below the intellectual level of a class. The willingness of a teacher to present problems to which he knows no definitive answer, though subject to overdoing, is a basic asset in creating real student interest. Above all, no one is as competent as the teacher to judge just how far a class can be carried on a line of thought. The college geographer's duty to the prospective elementary school teacher is to provide a maximum amount of insight into the subject, in other words, a liberal education. This is the resource school teachers must use to shape their own programs.

The aspect of geography which attracted me is its intellectual freedom. Any restriction on this freedom, any demand that all studies be in areas where they will have immediate practical use to government agencies or elementary school education, is distasteful. Similarly I resent being forced to justify my academic position by tailoring a program which will permit large numbers of graduates to find directly related sub-engineering jobs. Our rich society can afford a modest number of scholars impelled merely by curiosity. The internal excellence of their work is the criterion by which they are rated. The

liberal arts college is a citadel where they reside, and their by-products, liberally educated students, justify their small cost. Gaining entry to this citadel and holding a position there may well be the most vital task of the geographic profession today.

INTRODUCTORY GRADUATE WORK FOR GEOGRAPHERS

Gilbert F. White
University of Chicago

At least three problems arise in arranging programs of study for entering graduate students in geography. One is that students come with widely different formal preparation in the elementary disciplines of geography and related fields. A second is the wide spread in command of skills among those who have had the same formal courses. A third is the uncertainty of new students as to the areas in which they wish to specialize.

The ordinary transcripts and application papers do not reveal the student's true strengths and weaknesses. The title of a course is often a poor guide to its content or what the student learned from it. And the printed catalog fails to provide the kind of understanding of research fields and faculty interests that is essential to wise choice of formal courses and of more advanced studies.

In an effort to deal with these problems somewhat more helpfully, the Department of Geography at the University of Chicago has developed during the past two years a different kind of introduction to graduate work. It is a course which claims the full academic program of all new graduate students during the autumn quarter. To meet the Registrar's requirements, it carries two prosaic titles - "Geography 300: Pro-Seminar, 1 credit," and "Geography 301: Field and Library Methods, 2 credits" - but there its resemblance to the usual courses stops.

It seeks to serve two aims at the same time: 1) to assess the full strengths and weaknesses of each entering student in dealing with geographic ideas and methods, and 2) to acquaint the new students with what the faculty consider to be major concepts and skills for professional work and with the faculty's own interests and research programs. All of the members of the Department take part, so that by the end of the quarter each has the experience of intensive work for a week or more with the entering group.

This year the quarter began with a series of diagnostic tests covering diverse facts, concepts, and techniques of geography. Norton Ginsburg and Agnes Whitmarsh followed with basic skills of map intelligence, including map interpretation and the use of the map library. Wesley Calef took the group into the field for work which ranged from simple mapping to urban land classification and functional studies. Chauncy Harris

managed to condense into two and a half weeks the essential parts of the full course which he formerly gave on library and bibliographic methods. Ginsburg carried out intensive appraisal of representative research aims and methods, drawing on selected journal articles. Harold Mayer covered several concepts in urban geography, particularly economic base, spatial interaction, and gravity models. Philip Wagner examined central ideas in cultural geography. C. W. Thornthwaite introduced the group to climatic classification and the water balance. This was followed by work on concepts of resources management. Ann Larimore and Edwin Munger undertook a sample regional analysis, using an African area. A combination work room and class room was set aside for the group. During the quarter, students were expected to submit such evidence as field maps, appraisals of published maps, field reports, finished maps and charts, bibliographic analyses, short papers on numerous topics, oral reports, and outlines for more intensive work.

At the end of the quarter the faculty make independent and group assessments of student performance and needs. An individual, custom-made program for each student is then drawn up by two faculty members in consultation with the student. These programs range from advice that the student withdraw from graduate work to advice that he go directly into research with an agreed faculty member. In between there may be as many different programs as there are students. A few examples may indicate the kinds of solutions that are worked out.

Some students are encouraged to skip over most of the formal courses in geography and to go directly into reading courses or directed research. For some of these it may be necessary, however, to work intensively on foreign languages where these are involved in specialization. Thus, a student interested in the Middle East is steered into a year of Arabic and anthropology before returning to geography. A student concerned with economic geography may be weak in statistics or economics and be advised to take formal work in those fields. If climatology is in view, meteorology and botany will be required.

On the other hand a student who has been teaching human geography but has been found weak in physical geography may be required to take the basic undergraduate work before going on to the graduate courses. A student who is unable to write lucid English is asked to work on it intensively and to defer any advanced work until he can meet the writing requirements.

Often two needs can be combined: a man who has a smattering of French and German but has never used it professionally, and who isn't clear as to whether he wants to specialize in urban geography may be assigned a quarter of reading and writing from the French and German literature in the field.

In these and other ways the emphasis is placed upon identifying individual assets and liabilities as soon as practicable. The faculty feel that individual attention given early in a student's career may be more

fruitful than that given later: the time to catch the difficulties and also to nourish the growing edges is at the outset.

In most instances we have found that the student's own appraisal of his needs and skills corresponds closely with that of the faculty. This is the case even where the judgment may argue strongly against moving ahead to an advanced degree. All too often in graduate work a student spends a year working for a master's degree before it is clear that he can't write. The doctor's preliminary examination can be too often an embarassing time of appraisal for all concerned. We are trying to identify and anticipate possible difficulties.

So far we are encouraged by the results. The system seems more promising than requiring a prescribed set of courses. We feel enthusiastic about its usefulness in our particular situation and would like to report it to our colleagues in the Association and to invite their comments.

COASTAL EROSION CONTROL IN BELGIUM

Roger H. Charlier
University of Paris, France

Belgium's shoreline seems to have been finally anchored. We had already pointed out that the problems of the Long Island and New Jersey coasts were common to the other side of the Atlantic.* While little progress seems to have been made in our country, it appears that the French and the Belgians have attained some satisfactory results. I have studied more specifically the Belgian coast.

Since last March work has been brought to a halt along the Belgian Atlantic shore. By means of a pipeline and hydraulic sluicing not less than one million cubic meters of sand have been deposited on the beaches between Zeebrugge and the Dutch border since January 1956. As it was to be expected, everyone does not readily agree on the extent of the success of this attempt to save Belgium's beaches east of Zeebrugge. The facts are, nevertheless, that the beaches of both Knokke and Heist, which are the ones most affected by coastal erosion, are now some 12 inches higher than they were before. The Hydraulic Service of the Government reports that repeated tests show a general upheaval of the continental shelf along those beaches. This results from both the lengthening and heightening of the jetties which favor sand accretion and from sand piped in. The upheaval is of course limited to the nearshore part of the shelf but extending to the immediate vicinity of the Appelzak channel.

*Roger H. CHARLIER, "Belgian Coastal Erosion," The Professional Geographer, Vol. 7, No. 2 (March 1955), pp. 10-12.

Two steps mark the efforts of the Belgian Government. The first one, and assuredly the least spectacular, consisted in the lengthening and heightening of jetties. This action was badly needed because of lack of upkeep during and immediately after World War II. Work on that part of the project was started as far back as 1952. Some 250 million Belgian francs (about five million U.S. dollars) were spent to this end. The coastal currents being parallel to the shoreline, the cause of erosion could be removed by constructing jetties long enough and high enough to break the strength of these currents.

But this was not enough, since considerable damage had already been done as a result of neglect during the War and ineffective measures after the end of the conflict. Hence, a second phase: artificial sand accretion. With the currents deflected by the new jetties, natural accretion could take place, but this is a rather slow process. To hasten the beach building sand was piped in from a polder located inland south of Knokke. This measure fulfilled a double purpose: to accelerate the natural process of sand accretion and to protect the area from floods during storm tides in those regions where beaches had been stripped of their sand.

Observations taken between jetties located at Lekkerbek and at Het Zoute, indicate a 30-inch heightening of the nearshore zone. In some other locations the accumulation of sand is now some 40 to 60 inches above the prior level. The sand piped in from the polder has provided a blanket 40 to 68 inches thick over a distance of four and a half miles and seems to maintain itself successfully. The seaward extension of this blanket includes schorre and slikke. This is truly new sand. Accretion of sand was very difficult before work was completed on the jetties, because the parallel coastal currents would pick up the sand and let it settle in the Appelzak Diep. With the new jetties, the currents are reduced in strength and deflected in direction. The cost of completing this project was less than 25 million Belgian francs.

Today the beaches sustain themselves exceptionally well and no noticeable new erosion has been observed since the work was halted. An additional guarantee of stabilization, is the impending construction of a new mole in Zeebrugge. The dunes are being also anchored. Further construction of dwellings is now strictly limited and the dunes are being seeded with a type of pine tree (Pinus austriaca nigra) which thrives successfully on them.

The economic results of this government effort have already been felt. The Belgian vacationer is the livelihood of one-third of the population of the shore communities. When the beaches started receding, tourism began falling off, notwithstanding claims of local authorities to the contrary. Three reasons were involved: first, more Belgians own cars and the exceptionally high standard of living of the country permits them to take vacations in relatively distant countries; second, the deterioration of the summer climate noticeable for the past several

seasons; and third, the fact that as beaches shrunk they were almost entirely covered at high tide. The decline was such that many large hotels went out of business, a rather depressive sight on the boardwalk.

Space on the beaches has been about doubled and even at high tide a wide strip of dry sand remains available to vacationers. Most of the large hotels which had closed, announce their reopening for the 1958 season. The opening of Zeebrugge as a passenger harbor with direct connection with New York starting March 1958 will direct toward the Belgian shore a flow of foreign tourists which previously went to France or The Netherlands.

Under these conditions it is likely that the sums spent by the Belgian Government to rebuild the beaches will restore the prosperity of these summer resorts.

THEY WANT TO WRITE

Carl L. Swisher
Souther Illinois University

All too commonly instructors of undergraduate courses in geography think of their students solely as consumers of information. Carried to an extreme this attitude may weaken our profession by failing to encourage original thinking and writing. Yet, the burgeoning enrollment of most colleges and universities makes it increasingly difficult to offer more than rote lectures for consumption by the masses. It is toward the solution of this problem that each quarter my students in Global Geography (our beginning course) are assigned the task of writing a brief essay concerning the geography of their home community.

The goal of Southern Illinois University contributes to the success of this attempt to encourage research and writing. Located in an area which has the unenviable reputation of chronic depression, this university has as its chief aim service to its tributary area. The goal is to serve not only by offering the youth a chance, commonly their only chance, to obtain a higher education but also to accomplish basic research preliminary to action for economic advancement. Imbued with this spirit our students are keenly aware of the need for studies of local areas.

The response to the assignment has been encouraging. By the end of the quarter, when the assignment is due, the students have learned of the geographic approach; hence, it is unnecessary to spell out in detail what items should or should not be included in the report. Latitude is given for the student to handle in a geographic manner those materials he discovers to be of particular interest and pertinence. Most of the reports are filed where they may be consulted by anyone to whom they may be of use.

The key to success of the approach is that a select few of the reports are submitted to the students' hometown newspapers for consideration as publishable material. Every report thus submitted has been published. The possibility of seeing their research in print stimulates the students to think and write to the best of their ability. The "borrowing" of materials is kept to a minimum partially because someone in the home community is likely to recognize the source of information. Although most of the reports are essentially descriptive in nature, some provide critical appraisals concerning planning for community betterment. Almost all incorporate some information available in no other source.

As an additional encouragement to nascent geographers a bulletin board is utilized to display their efforts in research. Publications, typewritten manuscripts, photographs, and maps are posted near the classrooms. The student gains additional recognition. Conversation, if not action, on the problems, needs, and opportunities of the local area is aroused.

The noticeable results of this form of encouragement to research have been manifold. Materials available in no other place have been filed where they may form a base for more advanced research. Residents of the area learn that Johnny can read--and write for publication. Problems and potentials of various communities receive increased attention among students of the university and residents of the home communities. The university, especially the Department of Geography, is placed in a favorable light as having an interest in local conditions. Most important, the beginning students in geography are induced to want to write.

AAG 1958 LOS ANGELES MEETINGS

The 54th Annual Meeting of the AAG will be held August 19-22, 1958 in Santa Monica. It became necessary to change the headquarters hotel because of the failure of the Miramar to begin construction as planned. The Local Arrangements Committee submitted a detailed report to the Executive Committee on facilities available in Santa Monica, Beverly Hills, and downtown Los Angeles. The Executive Committee directed the Local Arrangements Committee to seek a new headquarters hotel in Santa Monica.

The hotel selected is the Hotel Monica, which is directly on the beach just south of the Santa Monica pier. The Monica has sufficient facilities for the various meetings and has banquet and other catering services. Unfortunately there are only a few guest rooms available because most of the rooms are leased under long-term arrangements.

However, there are many excellent facilities nearby, including both hotels and motels. Many of the motels are quite new and have swimming pools and various services. For example, the Surfrider Motel (1 block from the Monica) will have 150 rooms, a swimming pool, and complete dining facilities. We have also been fortunate in being invited to use the Del Mar Beach Club (1 block from the Monica), so that a wide range of accommodations is offered. Some of the places also have kitchenettes available.

All hotel, motel, and beach club reservations are being handled through the Convention Bureau of the Santa Monica Chamber of Commerce. Information and reservation forms have already been distributed. AAG members are responsible for their own reservations and urged to make reservations as early as possible because August is the peak tourist season in this area.

The preliminary program calls for an urban-industrial field trip of Los Angeles led by Howard Nelson of UCLA on Monday, August 18. The regular meeting sessions are to be held in the Hotel Monica Tuesday through Thursday, August 19-21. The AAG banquet will be held on Thursday night, August 21, in the Hotel Monica. On Friday, August 22, there will be a rural-coastal field trip to Ventura-Santa Paula led by Richard Logan of UCLA.

Registration will begin on Sunday, August 17, and will continue throughout the meetings.

The Local Arrangements Committee wishes to express appreciation for the return of the questionnaire regarding plans to attend the meetings.

---Huey Louis Kostanick, Chairman
Local Arrangements Committee
Geography Dept., UCLA
Los Angeles 24, California

Transportation Rates to Los Angeles

By Plane

Air Coach (Tax Included) to International Airport, Los Angeles

From	One Way	Round Trip
Atlanta	$118.14	$230.78
Chicago	83.60	167.20
Dallas	62.70	125.40
Denver	47.30	94.60
New Orleans	88.99	177.98
New York	108.90	217.60
Seattle	50.06	100.10
Washington, D.C.	107.80	215.60

By Rail

Coach (Fare Plus 10% Tax) to Union Depot, Los Angeles

From	One Way	Round Trip
Atlanta	$ 71.02	$132.33
Chicago	67.23	109.34
Dallas	44.39	83.38
Denver	41.39	73.54
New Orleans	60.18	109.41
New York	98.86	172.70
Seattle	43.22	77.83
Washington, D.C.	91.29	162.80

By Bus
(Tax Included) to Santa Monica

From	One Way	Round Trip
Atlanta	$ 53.68	$ 96.64
Chicago	51.04	86.79
Dallas	33.25	61.66
Denver	28.00	49.01
New Orleans	47.69	85.86
New York	69.52	125.18
Seattle	23.87	43.01
Washington, D.C.	64.96	116.93

SPECIFICATIONS FOR THE MAP SUPPLEMENTS TO THE ANNALS

The Council at the Cincinnati meeting approved map supplements to the Annals. This satisfies a long-felt need, and we hope for a wide response to this opportunity. The specifications for these maps are similar to those of the National Atlas.

Although many of our maps may not be included in the National Atlas because they deal with foreign areas, those which are intended for inclusion should conform fully to specifications published in "Map Standardization for a Loose-leaf National Atlas," by the National Research Council, 2101 Constitution Avenue, Washington, D. C. For all other maps the specifications below are sufficient:

1. Cost. The Council did not provide funds for the printing of these large maps, but the Chairman of the Cartography Committee and the Map Editor were authorized to solicit funds. Obviously, if the author could deliver printed and folded copies he would greatly ease the work of the Committee, but prior approval should be obtained from the Map Editor.
2. Size and Inclusion. The basic page size of the National Atlas is 16 x 22 inches, but this is important only for maps which may be included in it. Otherwise the size of the Annals must be considered, which allows for maps folded to a $6\frac{1}{4}$" x $9\frac{1}{2}$" size. More than four folds either way require onion-skin paper and will be approved only exceptionally. The maps will generally be inserted loose in the back of the Annals.
3. Color. Color reproduction is costly so that emphasis should be on black-and-white maps. Significant maps will be considered only occasionally for color reproduction, unless the author carries the expense.

4. Style, Layout, Lettering. Our Association wants to remain in the forefront of geographical and cartographical progress. Considerable freedom in graphic presentation will therefore be permitted. However, the maps which may be included in the National Atlas must adhere strictly to its specifications.
5. Text. If the map accompanies an article in the Annals, the text has to be approved by the Editor of the Annals. Short, explanatory text, which can be printed on the map itself, or its verso, needs the approval only of the Map Editor.
6. Number of copies. If the author plans to provide printed copies he should consult the Editor of the Annals for the exact number required (approximately 3,000 at present). If the Association prints the maps, the author may obtain extra copies at cost.
7. Consultation and approval. A rough layout of the map submitted to the Map Editor may preclude later disappointments. The Map Editor must also approve the completed manuscript map. If the author plans to provide printed maps, a copy should be sent for prior approval, particularly if half-tones and colors are involved.

---Erwin Raisz, Map Editor
107 Washington Avenue
Cambridge 40, Massachusetts

LETTERS . . .

Dear Editor:

A few years ago, when Shannon McCune was in Japan as a Fulbright lecturer, he wrote to a good many stateside geographers asking them to send texts and other books they wanted to clear out of their libraries. (Russian texts were available and cheap, but American books were unavailable.) I believe Shannon got so many books he almost lost his shirt paying postage on them. At that point, I gather, he approached the Asia Foundation and suggested they take over the book program.

When I arrived in Karachi I went to the local offices of the Asia Foundation to find out what books were available, and I was taken to a warehouse in which incoming books were being stored. Shannon's idea had developed into a full-scale program. Not only did I pick out 30 or 40 books which the Foundation sent to our Department, but shortly thereafter the University received a list of new arrivals. They have only to indicate what they want, and it's theirs, free of any charge.

In my opinion, this relatively inexpensive program is one of the most effective aspects of our foreign aid.

---Robert D. Campbell
University of Peshawar

ANNOUNCEMENTS AND REPORTS

ACLS Committee on Scholarly Publications

In recognition of the importance of the problem of publication to scholarly research, the American Council of Learned Societies Board of Directors has set up a committee to define the problem and its magnitude, to gather information needed for considering it, and, if possible, to propose a solution. The committee includes trade and university press publishers and scholars.

The committee will concern itself with scholarly books, monographs and journals. It will collect information on the extent to which publication is financially blocked. It will collaborate with a committee of the Association of American University Presses which is investigating manufacturing costs and new devices of manufacture, and with a committee of the American Book Publishers' Council concerned with problems of distribution. The committee solicits information and opinion from publishers, university and college officials, librarians, individual scholars, and from ACLS committees and constituent societies.

The committee expects to complete its investigations and to submit a report by December 1958.

Medals of the Tokyo Geographical Society

At the final Nara session on September 3, 1957 of the Regional Conference in Japan held under the auspices of the International Geographical Union, the Honorary Secretary of the Tokyo Geographical Society announced that his Council had decided to award the Medal of the Society to Professor L. Dudley Stamp, immediate Past President, and Professor Hans Ahlmann, President of the Union. The Medals, which have been awarded periodically since the Society's foundation for services to the advancement of geography with special reference to Asia in general and Japan in particular, were handed over to representatives of the United Kingdom and Swedish Embassies at a ceremony in Tokyo on November 9, 1957.

Pacific Science Association

The Standing Committee for Geography of the Pacific Science Association, organized at the Ninth Congress, is making plans and arrangements for the Tenth Congress to be held in Honolulu, August 1960.

(An account of the Ninth Pacific Science Congress, held in Bangkok, appeared in The Professional Geographer, Vol. X, No. 1, January 1958.) The Committee, with Albert Kolb as President, plans to compile and publish two volumes prior to the Honolulu meetings. The volumes will be: (1) a list of all geographers active in Pacific area research with a brief outline of their topics of present research, and (2) a bibliography of all geographic publications from January 1, 1957, which deal with topics concerning the Pacific.

The Committee is soliciting the assistance of geographers in the preparation of these volumes. They would like:

1. A letter briefly outlining your topic or topics of research from all geographers working on the Pacific area. Mention should also be made of other geographers known to be specializing on the Pacific area so the list will be as complete as possible.
2. Reprints of all articles dealing with the Pacific area which have appeared since January 1, 1957.

In previous Pacific Science Congresses relatively little contribution has been made by persons active in research concerning the Pacific margin of Latin America. This area does, indeed, fall within the interest of the Association and participation by workers in this area is encouraged.

Letters and reprints should be sent to:

Robert E. Huke, Secretary
Standing Committee for Geography
10th Pacific Science Congress
Dartmouth College
Hanover, New Hampshire

Paul Siple Receives AGS Medal

The American Geographical Society presented their David Livingstone Gold Medal to Paul A. Siple in recognition of his long activities in Antarctic research and exploration. In particular, he was honored for his recent expeditionary work as scientific leader of the United States outpost at the South Pole.

Field Geography of the U. S.

A field trip college course, June 16 to August 10, 1958, is being sponsored by Eastern Michigan College and Flint Junior College in cooperation with Graduate Training Program of the Mott Foundation of Flint, Michigan. The trip will cover 12,000 miles in Alaska and northwest United States. The itinerary will include the Alcan Highway, Mt. McKinley National Park, Lake Louise, Anchorage, Matanuska Valley, and

the Yukon Territory. The charges include tuition and $769 for transportation and overnight accommodations. Graduate and undergraduate credit may be obtained for this course. Reservations and other applications must be filed by April 1, 1958. Details concerning this course; methods of registration, credits, fees, and itinerary may be obtained from Dr. Benjamin Moulton, Department of Geology and Geography, Flint Junior College, Flint, Michigan.

Report on Indianapolis Meetings of AAAS Section E

The parts of the Section E (Geology and Geography) meetings in which the Association of American Geographers participated consisted of a session of contributed papers and four half-day sessions of a joint symposium with the geologists on Continental Glaciation and Its Geographic Importance as an Environmental Factor.

The session of contributed papers with Alfred H. Meyer of Valparaiso University, presiding, was held on Friday morning December 27. Eight illustrated papers were presented on a wide variety of geographic subjects, both domestic and foreign, to an appreciative audience of approximately 50 to 60 persons. Unfortunately, as there was little or no heat in the room, discussion of the papers, deferred by the Chairman to the close of the session, was at a minimum.

Friday evening, December 27, the Vice Presidential address and Section E Smoker were held. Paul F. Kerr, retiring vice president of Section E, spoke on "Uranium Emplacement in the Colorado Plateau." The Smoker, arranged by Claude M. Roberts (USGS, Indianapolis) was attended by several hundred persons.

On Saturday and Sunday, December 28 and 29, the four half-day sessions of the joint geology and geography Symposium were held. At these sessions, arranged by Frank C. Whitmore, Jr., Secretary of Section E, and Louis L. Ray, program representative for the AAG, 22 papers were presented which dealt with various phases of geology and geography of continental glaciation. Each session was well-attended, some taxing the 150-person capacity of the room. It should be pointed out that the Section was unusually fortunate in that the room assigned for the four sessions of the Symposium was ideal in all respects.

The first session of the Symposium with William D. Thornbury, Indiana University, presiding, consisted of 5 papers dealing largely with the present status of glacial geology in Indiana, Ohio, Michigan, and Illinois. At the second session, George W. White, University of Illinois, presiding, 7 papers dealt with the glacial problems of parts of Pennsylvania, New York, and with special local problems of importance. Session 3, Paul B. Sears, Yale University, presiding, had 6 papers dealing with climate, soils, and vegetation as related to and effected by continental glaciation. The 4 papers of the last session, Louis L. Ray,

USGS, presiding, dealt with water, and sand and gravel resources, and with the relationship of glaciers to human activities.

That the Symposium was successful was attested by the unusually large attendance at each session, by letters of commendation from participants following the meetings, and by the suggestions made by Dr. Sears that he felt, as past president of AAAS, it would be appropriate to collect the papers presented at the Symposium for transmittal to the AAAS so that they might be published as a symposium volume.

Abstracts of the papers presented at the meetings of Section E were printed in the Bulletin of the Geological Society of America, Vol. 68, No. 12, pt. 2, 1957, as is customary.

While the program representative for the AAG is not especially conversant with the average meeting of Section E, he has been led to believe that this meeting was unusually well attended by both geographers and geologists. He was, however, disappointed in the amount of support given by the many geographers in the area and felt that there might have been many more contributed papers. Likewise, he felt that the Symposium might have been sharpened geographically by more contributions indicating the relationship of human activities to the glaciated environment. If attendance continues to be at a high level it is felt that more papers will be presented and Section E meetings may assume a more important role for geographers. There is little doubt but that this stepchild, if adopted more openly into the geographic family, might become one of its more prominent members. Geography was not represented at the Council Meeting of Section E by any representative of a geographical society.

---Louis L. Ray
Program Representative for the AAG

Foreign Field Research Program

More scientists are becoming aware of the fact that doctoral candidates can obtain research contracts for field work in foreign areas. The Division of Earth Sciences received 32 proposals to consider in December 1958, a noticeably higher number than in the two previous years of the program. Projects submitted for consideration for this year's award included studies of political geography, lake ice, cotton production and transportation in such areas as Sweden, Sicily, Kenya, and Uruguay. Seven of these proposals were selected for support and encouragement by a screening committee composed of Dr. George B. Barbour of the University of Cincinnati, Dr. J. Russell Whitaker of George Peabody College, Dr. John K. Wright of the American Geographical Society, and Dr. Richard J. Russell of Louisiana State University. Funds for the program are provided by contract with the Geography Branch of the Office of Naval Research and administered by the

Division of Earth Sciences of the National Academy of Sciences-National Research Council.

The Committee's selections are as follows:

Name	Brief Title	Months in Field
Roland E. Chardon Department of Geography State University of Iowa	Plantations in the agricultural economy of Northern Yucatan	12
Richard A. Ellefsen Graduate School of Geography Clark University	The expanding dairy industry in major Indian cities	12
Alexander R. Gassaway Graduate School of Geography Clark University	The agricultural geography of Finnmark Province, Norway	14
James Haratani Geography Department University of California at Berkeley	Native fish culture of the Indian subcontinent	14
Don R. Hoy Department of Geography University of Illinois	Patterns of agricultural land use in the islands of Guadaloupe	8
Alvin W. Urquhart Department of Geography University of California at Berkeley	Cultural geography of Mocamedes and Huila, Angola	12
Canute VanderMeer Department of Geography University of Michigan	Land use on the island of Cebu, the Philippines	12

In choosing those to be supported, preference is given to proposals which would yield the maximum value to the applicant as well as produce the best research for the program. Emphasis is placed on the challenge of a new and different cultural setting, a foreign language, and the opportunities to make contacts of permanent value in distant places. Administrators of the program use the broad definition of the term geography so that it includes those aspects of bordering sciences which possess important geographical significance. The program consequently includes parts of ecology, glaciology, geomorphology, pedology, etc. In addition to these scientific criteria, economic considerations must

also be made in order that a limited budget can support a maximum amount of research. The "average" field project costs $4,920, lasts 12 months, and is conducted by an investigator 29 years of age.

Tour to Europe and USSR

Adverse circumstances have forced Ena L. Yonge, Map Curator of the American Geographical Society, to postpone her trip to Asia until early in 1959. In the meantime, Miss Yonge is sponsoring a 28-day tour to Europe and the USSR, leaving New York July 16 and returning August 12. The itinerary includes Copenhagen, Helsinki, Leningrad, Kiev, Rostov, Stalingrad and Moscow, with two days on the Don-Volga canal. Then to Munich which this year is celebrating its 800th anniversary, Amsterdam, Brussels for the World's Fair, and Paris. Arrangements can be made for those wishing a longer stay in Europe. Cost is $1,571, and reservations must be in by April 1, with deposit of $100 plus passport and filled in Russian visitors' application questionnaire. These will be sent on request. Arrangements are being handled by Transmarine Tours, 500 Fifth Avenue, New York.

Berenice Casper Awarded Nystrom Fellowship

The Fellowship Committee unanimously recommended that the Albert J. Nystrom Memorial Fellowship for Advanced Study in Improving the Teaching of Geography in Elementary and Secondary Schools be awarded for 1958-59 to Miss Berenice Margaret Casper. The award of $2,400 is to be granted annually to the best qualified applicant pursuing a program of research and writing leading to a Doctoral dissertation on some aspect of the teaching of Geography.

Miss Casper received the B.Sc. (1937) and M.A. (1941) at the University of Nebraska, and took additional graduate work in Geography at the Universities of Wisconsin and Pennsylvania as well as at McGill University. She is now a candidate for the Ed.D. degree in Secondary Education at the University of Nebraska. The title of her dissertation is "The Scope and Sequence of Geographic Education in the Curriculum of Grades Four through Twelve."

Dr. Coulter Honored

On September 13, 1957 John Wesley Coulter was awarded the Legion of Honor by the French Government. The decoration was formally conferred on him on February 11 in the Salle des Octes of the University of Bordeaux where he is giving a course on the Pacific during the winter

semester. During the spring semester Mr. Coulter will lecture at the University of Paris, the University of Brussels, the Society of Oceanists and the French Geographical Society of Paris.

NEWS FROM GEOGRAPHIC CENTERS

Los Angeles Geographical Society

A successful annual banquet was held on December 6 with over 100 in attendance. Richard Logan of UCLA gave an illustrated talk, "Glimpses of Southwest Africa," in which he described the ponderous water problems of coastal Southwest Africa.

The 1958 officers of the Society are: President, John Reith; Vice President, John Gaines; Recording Secretary, Ruby Wacker; Corresponding Secretary, Addie Stevens; and Treasurer, David Jennings.

On January 3 a Popular Lecture meeting was held at which Tom McKnight spoke on "Island Hopping in the West Indies."

The Society had a financial blow last year when they had to pay a penalty on past due income taxes. Their status has now been clarified and they are exempt from Federal income tax.

University of Illinois

During the summer of 1957 the Department of Geography moved into its new quarters. A whole wing of an existing building was entirely rebuilt to the Department's own plans. The three floors and basement are now used exclusively by geography. Most of the third floor is devoted to cartography: the large laboratory has a ceiling of continuous light to completely eliminate shadows; an equipment area contains such machines as a large Bruening Copyflex, an enlarger-reducer, and a photo-composing machine; there is a completely equipped photographic darkroom. The entire third floor is air-conditioned. Nearly half the second floor is occupied by the departmental seminar room which includes kitchen facilities for making coffee, etc. The greatest personal pleasure of the staff probably stems from the large individual offices which are fully equipped to meet each person's needs. For the first time, completely adequate space is available for graduate students. The departmental wall-map collection, including more than 300 maps actively used in teaching, is housed in a special room with built-in racks.

During 1956-57 the Department presented a thirteen-week television series entitled "Neighbors Near and Far" over WILL-TV, the University station. Alfred Booth organized and directed the departmental participation, and most of the staff appeared on the programs.

The 1957 summer field camp was held on Lake Wisconsin near Poynette. Under the direction of John Garland the group studied the

Empire Prairie particularly. The Department is presently engaged in making arrangements for a permanent field-camp site.

The staff has been increased by the addition of Mr. James Bier as cartographer and draftsman. He will work on staff and departmental cartographic projects as well as on a revision of the Illinois Resource Atlas.

The staff has as usual been actively engaged in lecturing and research activities. Joseph Russell, Head of the Department, has lectured at both the Army War College and the Command and General Staff School in addition to serving as a consultant to the Corps of Engineers at the Vicksburg Waterways Experiment Station. On campus much of his time has been devoted to the chairmanship of the All-University Committee on Community Problems. This is an attempt to coordinate and make available to the cities of Illinois the services of more than 35 departments of the university.

John Page is preparing a supplement to his earlier publication, The Climate of Illinois. This supplement will include the data from 1947-56 and will be published by the Agricultural Experiment Station. John Garland has been lecturing widely on the Midwest and on the impact of the St. Lawrence Seaway. His audiences included the Chicago Manufacturer's Association and the 7th district of the Illinois Bankers Association. Alfred Booth spent last summer in the Garrison Dam area of North Dakota acting as a consultant on recreational geography for a firm surveying the economic potential of the area. His writing activities have included articles for the American People's Encyclopedia.

Fred Foster is acting as Directing Consultant on the revision of the Illinois Resource Atlas for the Illinois Division of Industrial Development and Planning. Robert Carmin is finishing his research on soils as related to agriculture and road building in Central Goias, Brazil. He will be on sabbatical leave this semester and summer and expects to carry on field research in either Argentina or Central America. Jerome Fellmann was on sabbatical leave the second semester of last year during which time he continued his research on the growth patterns of Chicago and on urban industrial patterns in Illinois. Howard Roepke has been serving as a consultant on community industrial potential surveys and last summer conducted such a survey for the city of Quincy, Illinois. He has been appointed by the Governor to a three-year term on the State Conservation Education Advisory Board. Charles Alexander has prepared his manuscript on The Geography of Margarita and Adjacent Islands for publication as one of the University of California Publications in Geography. He hopes to again do field work in the Caribbean area this summer.

Oregon State College

J. Granville Jensen, on sabbatical leave, is in Mexico studying resource utilization practices. He reports that the first two months were spent in visiting geographers, Mexican Government resource agencies and officials in the Federal District and the State of Mexico. One week was spent in the field with the chief of the "Agronomes Regionales" (corresponding somewhat to county agents). Another week was devoted to field observation of mining activities. During the month before Christmas he travelled by bus, train, and airplane through southern Mexico, Yucatan Peninsula, and the Isthmus of Tehuantipec visiting resource development centers.

In Dr. Jensen's absence Richard M. Highsmith, Jr. is acting chairman and Robert Dolan (M.S. Oregon State, 1957) is serving full-time as an acting instructor. Robert D. Rudd joined the senior staff in September to handle and further develop the department's work in physical geography. He is also responsible for the cartography offerings. A new course in Aerial Photo Interpretation is being given in the winter term. Graduate students on the junior teaching staff in 1957-58 include Alfred L. Brisbois (B.A. Eastern Washington College), James Jack (B.S. Southern Oregon College), Virindar S. Kuckreja (B.A. Punjab University), Thomas Stumbaugh (B.S. Eastern Washington College), and Paul R. Tschirley (B.A. Eastern Washington College).

The department is experiencing its largest enrollment with nearly 1,000 students taking geography courses. Undergraduate majors number 34 and 11 graduate students are in residence.

The staff had an active year in research and writing during 1957. The second edition of the Atlas of the Pacific Northwest under the editorship of Professor Highsmith came out in July. Several members of departments contributed chapters: Jensen, "Climate," "Primary Metals and Chemical Industries"; Wilfred G. Myatt, "Population"; and Oliver H. Heintzelman, "Transportation," "Recreation Resources and Tourism" and "Urban Centers." Twenty-one additional members of the Oregon State Faculty made contributions. Professor Jensen authored a chapter, "Foundation of the United States," in World Political Geography, second edition, by Pearcy and Associates published early in the year. He also gave a paper at the 1957 Association meeting, entitled the "Aluminum Industry of the Pacific Northwest: A Reappraisal and Forecast". Dr. Highsmith contributed an article to 1957 Collier's Encyclopedia Yearbook on "The Pacific Northwest" and another on "Oregon" to the World Book Encyclopedia. Professors Heintzelman and Highsmith prepared a workbook, Aids to Understanding World Regional Geography to accompany their textbook. It is also being published by Prentice-Hall and was available in January 1958. Highsmith and Jensen will have a new text Geography of Commodity Production off the

J. B. Lippincott presses in April. Dr. Rudd is author of "Cyclonic and Frontal Activity in Ohio During the Summer of 1953" in the July 1957 issue of the Ohio Journal of Science.

Clark University

Samuel Van Valkenburg lectured in spring for the Industrial College of the Armed Forces at Washington and took part in a discussion on geography at the University of Pittsburgh. This was part of the program in honor of the installation of the new Chancellor. After teaching summer school at Clark, he left for Europe on sabbatical leave. Part of the time was spent in Zurich where he was invited to give a course in Political Geography at the University, his own Alma Mater. Besides teaching he traveled extensively in the countries of the Common Market to study problems of agriculture. He returned with a map of the Standard of Landuse within the Common Market. A copy of the map was offered to Dr. Mansholt, one of the Vice Presidents of the Common Market and head of the Agrarian Division to be used in conference on land use. The results of this study will be published.

Raymond E. Murphy was acting director of the Graduate School during the first semester. He has continued work on a survey of urban geography, edits Economic Geography, and has prepared a chapter on CBD research for a forthcoming yearbook of planning techniques. During the second semester he is visiting professor at the University of California, Berkeley.

Richard J. Lougee carried on research and writing during his sabbatical half-year, making excursions to James Bay and central Labrador in the course of his surveys of the glacial upper marine limit. He found some of the highest marine shorelines on the continent at over 1,000 feet elevation in northern Ontario, and differentiated a series of freshwater lake shores from the marine shores along the south side of the St. Lawrence Valley. In September-October he supervised the student mapping of glacial features in an area of 200 square miles at the Clark Field Camp in Portland, Connecticut. A resume of his 30 years of Connecticut Valley research appeared in the November issue of the Dartmouth Alumni Magazine, entitled "Hanover in the Ice Age." At the AAAS convention in Indianapolis in December he presented two papers: "Pre-Wisconsin Peat in Millbury, Massachusetts" which described a deposit of organic material 35,000-plus years old which underlies 65 feet of till in the Worcester region; and "Trench Diversions and Salton Basins" dealing with principles of river diversion.

Henry J. Warman conducted a summer Workshop in Geography at Northwestern University, then did field work until late September in Colombia, Ecuador, and Peru. A paper, "Changing Emphases in Geographic Education," given at the NCGE meetings in St. Louis will appear

in a brochure with papers by Earl Shaw and Philip Bacon. The brochure will be published by Journal of Geography. A paper, "Effect of Urbanization on Diurnal Temperatures," (a case study of New England cities) was presented at the Eastern Snow Conference, February 13. He continues his conferences on Geography in the Social Studies with neighboring New England States' Education Departments and institutions, and his work on a Senior High School Geography text.

Upon the resignation of Edward C. Higbee, two part-time additions were made to the staff: Robert Anstey who conducts a seminar on land use, and David Miller who is offering a course on geographic aspects of hydrology, emphasizing how phenomena involving water are related to landscape characteristics and the application of hydrologic techniques to regional analysis. Erwin Raisz continues his work in map and aerial photo interpretation. Visiting professor for one week in the first semester was H. H. McCarty of Iowa. Second semester visiting professor is Robert C. Estall of London School of Economics, offering work in problems of economic geography and geography of the British Isles. The next visiting professor in land use studies will be Hans Carol of Zurich University.

Butler University

Since September 1956, significant changes have taken place in this department. Up to that time, the function of geography instruction was predominantly to fulfill state requirements for elementary education majors. Now it is slowly developing into a subject which is taught for its own sake. From 1947 to 1956 only about six geography majors were graduated, while at present the department has four majors and one minor.

The department is emphasizing systematic geography, and has added a number of courses to round out the program, with several lecturers included and anticipated. Francis E. Elliott, chairman, is offering a new course on the geography of the oceans; Bertha Van Derbilt teaches geography of the Midwest and geography of Indiana; Claude M. Roberts, head of the Water Resources Branch of the U. S. Geological Survey in Indianapolis, teaches introductory geology, and is planning a course in water resources and management. It is anticipated that Anthony Brown, graduate of the London School of Economics, will teach during the post-summer session; and it is also hoped that Raymond Lee, Ph.D. candidate at Northwestern University and senior planner for the Metropolitan Planning Department of Indianapolis, will teach urban geography next fall.

Dr. Elliott has recently published two papers, one in the Geographical Journal of the Royal Geographical Society at London and the other

in Arctic, the journal of the Arctic Institute of North America at Montreal. He was also appointed consultant in climatology to the United States Naval Avionics Facility in Indianapolis.

Charles F. Brooks, Professor Emeritus of Meteorology at Harvard University, died on January 8 of a heart attack at his home in Milton, Massachusetts. He was born in St. Paul, Minnesota, on May 2, 1891, and was educated at the University of Illinois and at Harvard University where he received the A.B. in 1911, A.M. in 1912, and Ph.D. in 1914. His distinguished career at Harvard's Blue Hill Meteorological Observatory began in a preliminary way in 1912 when he served as research assistant. In 1914 he went to Radcliffe College and the next year took the position of instructor in geography at Yale University. From 1918 to 1921 Dr. Brooks was associated with the U.S. Weather Bureau. It was during this time that he founded the American Meteorological Society. He joined the faculty of Clark University in 1921 and continued this association until he was appointed Director of Blue Hill in 1931, in which capacity he served until his retirement last summer. He was instrumental in establishing the Mount Washington Observatory in the White Mountains, in the early 1930's. Dr. Brooks was author of "Why the Weather?" and collaborated on "Climatology of North America and the West Indies," "Climatic Maps of North America," "Eclipse Meteorology," and the "International Cloud Atlas." At various times he was editor of the "Bulletin of the American Meteorological Society" and the "Monthly Weather Review." He was consultant to several government agencies and active in international groups. Dr. Brooks was President of the AAG in 1947 and presented "The Climatic Record: Its Content, Limitations, and Geographic Value" at the meetings in Charlottesville, Virginia. As one of the country's leading authorities on weather and climate, and as a thorough and diligent scholar, his impact on the fields of his specialization was important and will be long-lasting.

THESIS TITLES

Thesis titles are published in the March and November issues of The Professional Geographer. Titles should be submitted to Leslie Hewes, University of Nebraska, Lincoln 8, Nebraska, by February 1 and October 1, respectively.

Ph.D. Dissertations Completed

Bennett, Don C. "Population Pressure in East Java." Syracuse University, August 1957.* Microfilmed.

Drewes, Wolfram U. "The Economic Development of the Western Montana of Central Peru as Related to Transportation." Syracuse University, August 1957.* Microfilmed.

Ebert, Charles H. V. "Soils and Land Use Correlation of the Outer Coastal Plain of Virginia, the Carolinas, and North Georgia." University of North Carolina, 1957.*

Girgis, Monir Saad "A Fertile Crescent Federation." Clark University, June 1957.

Jones, Reece Alexander "The Inner Coastal Plain of North Carolina--An Agricultural Region." University of North Carolina, 1954.* Abstract published in University of North Carolina's Research in Progress, 1955.

Khan, Mohammed Halim "Muslims in India After 1947 - A Study in Political Geography." Clark University, June 1957.

Laycock, Arleigh H. "A Physiographic Classification of Soils for Land-Use Planning on the Eastern Slopes of the Canadian Rockies." University of Minnesota, September 1957.*

Logan, Byron Eugene "An Historical Geographic Study of North Carolina Ports." University of North Carolina, 1956.* Abstract published in Research in Progress, 1957.

Luna, Telesforo W., Jr. "Delimitation of High-Quality Residential Land Use in Worcester, Massachusetts." Clark University, June 1957.

Marcus, Robert B. "An Analysis of the Programs for the Preparation of Prospective Teachers of Geography in Selected Southern States." University of Florida, August 1956. / Ed.D. /

Murphy, Raymond Ernest "Land Ownership in the Wilderness Areas of the United States National Forests." Clark University, June 1957.

Perry, Robert Folsom, Jr. "Land Utilization in Sullivan County, New Hampshire: A Critique and Evaluation of the County's Rural Land Resources." Clark University, June 1957.

*Available for inter-library loan

Salisbury, Neil E. "A Generic Classification of Landforms in Minnesota, University of Minnesota, 1957.*

Sas, Anthony "Dutch Migration to and Settlement in Canada, 1945-1955." Clark University, June 1957.

Shaffer, Ralph G. "German Resort Towns." Syracuse University, December 1957.* Microfilmed.

Summers, W. S. "A Geographical Analysis of Population Trends in Newfoundland." McGill University, 1957.*

Terry, Joseph Elmo "Geography in General Education: Its Contribution in the Undergraduate General Programs of Selected American Colledges and Universities." University of Denver.* Microfilmed. /Ed.D./

Tucker, Grady Oscar, Jr. "Development of the Central Business Area, Worcester, Massachusetts, with Special References to the Retail Sales Function." Clark University, June 1957.

Tuttle, Jerry "Ground Water Development in Salt Lake County, Utah." University of Nebraska, February 1958.* Microfilmed.

Twidale, C. R. "Development of Slopes in Central New Quebec-Labrador." McGill University, 1957.*

Ph.D. Dissertations in Process

Bushong, Allen D. "Geographical Aspects of Rice Production in Cuba." University of Florida.

Cruttenden, Charles H. "Characteristics and Problems of Manufacturing Land Use in the Syracuse Area." Syracuse University.

Delliquadri, Lawrence "A Contribution of the Climate of Ethiopia." Clark University.

Forward, Charles N. "The Shipping Trade of Newfoundland." Clark University.

Heusinkveld, Harriet M. "The Historical Geography of Mahaska and Monroe Counties, Iowa." State University of Iowa.

Hughes, John D. "Physiography of the Central Keweenaw Peninsula, Michigan." Northwestern University.

Hussain, Farhat "Population Migration in Florida." University of Florida.

Lal, Amrit "Some Characteristics of Indian Cities of Over 100,000 in 1952, With Special Reference to Their Industrial Structure." Indiana University.

Lloyd-Jones, Donald J. "The Economic Development of the Upper Cauca Valley, Colombia." Columbia University.

Maiyah, Ali M. Al "Delineation of Agricultural Regions in Iraq, 1952-53." State University of Iowa.

*Available for inter-library loan

Minkel, Clarence W. "An Historical Geography of Land Use and Settlement in the Basin of Valencia, Venezuela." Syracuse University.

Momsen, Richard P., Jr. "Transportation Over the Brazilian Coast Range as Exemplified Between Rio de Janeiro and Petropolis." University of Minnesota.

Mukerji, A. B. "Cultural Geography of the Jats in Upper Doab, India." Louisiana State University.

Sager, Neil Anthony "Problems of Resources in the Teachings of the Roman Catholic Church." University of Florida.

Webb, Kempton E. "A Geography of Food Supply in Central Minas Gerais, Brazil." Syracuse University.

Wolf, Laurence G. "Changing Population Densities in Ohio, 1900-50." Syracuse University.

Wu, Cheng Tsu "Chinese People and Chinatown in New York City." Clark University.

Masters' Theses Completed

Acker, William J. "The Application of Audio-Visual Aids to the Teaching of College Geography." Syracuse University, 1957.* Microfilmed.

Bain, Keith "Land Use, Farm Size and Farm Tenure in Relation to Soil Damage in Yorktown, New York, 1954." Syracuse University, 1957.* Microfilmed.

Boyd, William A., Jr. "The Impact of the New York State Thruway on Changing Land Use Along Its Route: With Special Emphasis on a Case Study, Interchange No. 35 at Syracuse, New York." Syracuse University, 1957.* Microfilmed.

Carter, Joseph L., Jr. "A Land-Use Study of Florida's Wildlife Management Areas." Florida State University, June 1957.*

Cass, James E. "Land Occupance Types in Garrard County, Kentucky." University of Georgia, 1957.*

Crawford, Paul V. "Moore and Noble, Oklahoma:, A Comparative Urban Study." University of Oklahoma, 1957.

Cunningham, Thomas J. "Submerged Land Problems in Pinellas County, Florida." Florida State University, February 1957.

Cureton, E. A. "The Lachine Canal." McGill University, 1957.

Dahlberg, Richard E. "Agricultural Land Utilization in the Lake Erie Grape Belt." University of North Carolina, 1952.*

Devine, Edward Peter "Delaware Valley, U.S.A." George Washington University, June 1957.

DePuy, LoAnn "The Sequent Occupance of the Lower Cache La Poudre Valley, Colorado." University of Denver, December 1957.* Microfilmed.

*Available for inter-library loan

Dolan, Robert "Resources for Recreation in the Upper Rogue Valley." Oregon State College, August 1957.

Ebert, Charles H. V. "High Point's Evolution as a Furniture Town." University of North Carolina, 1954.*

Ekholm, Carl Leo "Offshore Oil Development in the Gulf of Mexico with Special Emphasis on Offshore Louisiana." Columbia University, 1957.*

Fernald, Edward A. "Some Problems of Fresh Water Source and Use in Manatee County, Florida." Florida State University, August 1957.*

Fisher, Edward C. "Land Policy and Program of the Trustees of the Internal Improvement Fund." Florida State University, June 1957.*

Fowler, Gary L. "The Effects of Land Tenure on Land Management: A Study in Methodology." Syracuse University, 1957.* Microfilmed.

Freile, Luis "The Extractive and Manufacturing Industries of Ecuador: A Study in Industrial Geography." University of Oklahoma, 1957.

Fuchs, Roland John "Clermont Township, New York: A Study in Historical Geography." Clark University, June 1957.

Gassaway, Alexander Ramsey "Norwegian Government Policy and the Expansion of Cultivated Land in Finnmark Province." George Washington University, February 1957.

Getis, Arthur "A Geographic Analysis of the Rail Freight Shipments of Pennsylvania." Pennsylvania State University, January 1958.

Gex, Louis J. "California, Missouri: Its Twin Nuclei Development and Functions." University of Missouri, February 1957. Microfilmed.

Gora, Janina "Changing Karaganda /U.S.S.R./" Syracuse University, 1957.* Microfilmed.

Hesaltine, Charles Edwin, Jr. "Military Operations as Characterized by the Effects of Environment: A Study in Military Geography." George Washington University, October 1957.

Hough, Richard F. "Evaluation of Two Methods of Identifying a Modal Unit." Syracuse University, 1957.* Microfilmed.

Hunter, William Hughes "Use of the Term Thoroughfare as a Geographic Name in the United States." Catholic University of America, June 1957.*

Jennings, James M. "The Agricultural Geography of Wilson County, North Carolina." University of North Carolina, 1955.*

Johnson, J. Peter, Jr. "Summer Ice Conditions in Baffin Bay, 1901-1950." Clark University, June 1957.

Jurika, Stephen, Jr. "A Geography of Southeast Asia." George Washington University, June 1957.

Karaska, Gerald James "An Economic Base Analysis of the Wilkes-Barre Urbanized Area." George Washington University, October 1957.

*Available for inter-library loan

Langlois, J. C. "L'Amenagement des villes a industrie extractive du Subarctique." McGill University, 1957.

Lotz, J. R. "Soils and Agricultural Possibilities of the Knob Lake Area, Quebec." McGill University, 1957.

Levo, Edith Miriam "The Federation of the British West Indies: Development and Prospects." Clark University, June 1957.

Lockhart, Richard Arnold "A New England Rural-Urban Fringe: A Study of the Immediate Rural-Urban Fringe of Worcester, Massachusetts." Clark University, June 1957.

Mandel, Harvey "The Economic Geography of Houghton County, Michigan, the Copper Country: A Case Study in Area Redevelopment." Columbia University, 1957.*

Maranda, Edward G. "Industrial Construction in the Twin Cities Area; 1946-1956." University of Minnesota, 1957.

Mason, Norman Randolph, Jr. "The Impact of Environment on Military Operations: A Study in Military Geography." George Washington University, October 1957.

Merten, Ulrich "Venezuela's Dual Economy." Columbia University, 1957.*

McDonald, Gordon C. "Decline of Great Britain's Prestige Resulting from the Suez Issue of 1956." University of Denver, August 1957.* Microfilmed.

Minnick, Robert Fletcher "Regionalization of Economic Activity: A Study in Geographic Method." University of Nebraska, February 1958.*

Miyazaki, Michihiro "Manufacturing in Japan." Syracuse University, 1957.* Microfilmed.

Naqavi, S. H. H. "Peanut Crop in the United States." University of North Carolina, 1953.*

Natoli, Salvatore John "The Chesapeake and Delaware Canal: A Geographic Study of Its Border Areas." Clark University, June 1957.

Nebiker, W. A. "Evapotranspiration at Knob Lake, Quebec." McGill University, 1957.

Noble, William A. "Sequent Occupance of Hopeton-Altama, 1816-1956." University of Georgia, 1957.*

Payne, James Edward "Burlington-Graham: A Study of Urban Development." University of North Carolina, 1952.*

Porter, Philip W. "Recreation on the Shoreline of Lake Sunapee, New Hampshire." Syracuse University, January 1955.

Rost, Harry T. D. "A Geographic Study of Recreational Resources and Facilities in Northwest Arkansas." University of Arkansas, June 1956.*

Renny, Edward "Glacial Water Levels in the Quinsigamond River Valley, Massachusetts." Clark University, June 1957.

*Available for inter-library loan

Ritter, Frederic Arnold "Kent Island, Maryland, Development Study." Clark University, June 1957.

Schul, Norman W. "The Development of a Midwestern City - Troy, Ohio." Miami University, Ohio, August 1957.

Sim, Victor Wallace "A Comparison of the Site and Function of Four Towns in Northeast Newfoundland." Clark University, June 1957.

Smith, Russell E. "The Towns of the Missouri Valley: An Element of the Historical Geography of Missouri." University of Missouri, June 1957. Microfilmed.

Walnut, Aylward Jerome "A Study of Long Beach Island, New Jersey." George Washington University, October 1956.

Walp, Neil M. "A Geographical Analysis of Manufacturing in the Central Lowlands of New York State." Pennsylvania State University, January 1958.

Weed, Malcolm D. "A Study of the Source and Characteristics of Inmigrant Labor in Springfield, Ohio." Miami University, Ohio, August 1957.

White, Benjamin U. "The Climatology of the Southern Blue Ridge Mountains." University of North Carolina, 1951.*

Witzel, William T. "The Resources and Industries of the New River Drainage Basin in West Virginia." University of Tennessee, December 1957.*

Wysor, Frederic J. "Mapping the Ten Thousand Islands of Florida." Florida State University, August 1957.*

*Available for inter-library loan

PERSONAL NEWS

E. Willard Miller has been elected President of the Pennsylvania State University chapter of the American Association of University Professors for a two-year term. The chapter has over 500 members.

M. Bahy Hefny has recently become a staff member of United Nations in New York. He is associate officer in the Cartographic Unit.

T. Haughton Pardee is spending the next twenty months in Monrovia, Liberia, serving as advisor to the Liberian Government on the engineering aspect of malaria control.

Rafael Pico has been elected President of the Government Development Bank for Puerto Rico. He has been Secretary of the Treasury of Puerto Rico since 1955 and chairman of the Government Development Bank since 1953.

Jacques Girard has accepted a position as geographer on the staff of the Geographical Service of the Department of Industry and Trade of the Province of Quebec.

Adelbert K. Botts, head of the Geography Department at Trenton State Teachers College, has become mayor of Pennington, New Jersey.

Roger H. Charlier of Hofstra College is on his way to Japan. From there he goes to France where he will spend some time in the Department of Physical Geography and Dynamic Geology of the University of Paris. Later he will be at the Station Oceanographique de la Vieille Forge at Villefranche-sur-Mer, the University's coastal and oceanographic study center.

Bruce C. Ogilvie has left Chico State College to take a position in Seattle as analyst with Larry Smith & Co., Real Estate Consultants.

Martha M. C. Ogilvie is now Geography and Map Librarian in the Department of Geography of the University of Washington.

David W. Lantis has joined the staff of Chico State College.

Irene S. van Dongen of Columbia University left for Europe and Africa in February to continue research on the Columbia University-ONR (Geography Branch) study of ports and transport lines of middle Africa. Emphasis is on ports of Angola, French Equatorial Africa, and French Cameroun.

NEW PUBLICATIONS

Late Pleistocene and Recent Changes in Land Forms, Climate, and Archaeology in Central Baja California. Brigham A. Arnold. University of California Publications in Geography, Vol. 10, No. 4, pp. 201-318, illust. October 14, 1957. $3.00.

The Chapala Basin is 2,000 feet above sea level, with interior drainage, halfway between the east and west coasts of the Peninsula of Baja California, Mexico, at 29°25' N. The area was studied chiefly because signs of ancient climatic and crustal changes, reflected in alterations of former lake levels, were combined with readily recoverable archaeological remains. The physical history of the Basin from Late Pleistocene times is first presented with the aid of a relief diagram, geognostic map, profile sketches, maps of former lake outlet channels, and an estimate of the ancient water economy (although local precipitation, temperature, and wind records are lacking). Then follows the archaeology -- mainly stone artifacts collected from sandhill campsites. Three successive cultural phases are recognized in a sequence based on typology, weathering, and other "internal criteria," rather than upon stratigraphic evidence. Nevertheless, the sequence looks valid enough. Phase I had crude elongate biface chipped tools and little else. The next two phases share projectile points, milling stones, and cockle and mussel shells, with scraper planes in Phase II, and a complex of flakes, cores, and choppers in Phase III. Earliest human occupancy is placed well back in the Wisconsin Glacial (timewise; there is no local glacial evidence), if not earlier, prior to major crustal movements in the peninsula. Although human activity had little direct effect on the changing physical environment with which Arnold deals, man may well have modified the vegetational cover and faunal components -- with neither of which Arnold deals here.

This monograph will be of greatest interest to archaeologists working on Early Man in the Americas.

---Gordon W. Hewes

Water For Industry. Jack B. Graham and Meredith F. Burrill, eds. American Association for the Advancement of Science, Publication No. 45. Washington, D.C. 1956. vi and 131 pp. illust. $3.75 (AAAS members $3.25)

Geographers, particularly the small but growing group interested in the geography of manufactures, will welcome this volume. Water for Industry is the end product of a symposium of the AAAS held in Boston in 1953. Its chapters are contributed by a number of leading

specialists in the field. For so small a volume, it contains a wealth of material. Few people realize how heavily industry draws upon water and how dependent several types of industry are upon a supply of the proper quality. In fact water is coming to be regarded as a major factor in plant location and plant expansion. Water shortage, actual or potential, is a matter of genuine national concern. An enormous amount of time would be spent by a professor or student trying to find articles in professional journals covering this same material. A few topics of the contents are: The Available Water Supply, Geographic Distribution of Manufacturing, Water Supply and Waste Disposal Requirements for Industry, and Water in the Future. There are several meaningful maps and an excellent bibliography.

---C. Langdon White

Old Stone Age. Stevan Celebonovic & Geoffrey Grigson. Philosophical Library, Inc. New York. 1957. 96 pp. illust. $10.00.

This is the second in the Nature and Art Series and closely follows the format of the earlier volume, The Living Rocks. Its subject, primitive man, is also a natural sequal to the first book. Seventy-two magnified and detailed pictures, 64 of them being full page (11" x 8½"), show man's earliest implements and art. The photography is excellent and the subjects, for the most part, are well-chosen. It is unfortunate that the captions are listed separately at the back of the book, necessitating a lot of page-flipping. All the plates are black and white.

The Pacific Dependencies of the United States. John Wesley Coulter. The Macmillan Co. New York. 1957. xv and 388 pp. illust. $6.75.

This volume is an interesting and geographic study of the Territories of the United States in the Pacific, i.e., Hawaii, American Samoa, and Guam, and the Trust Territory of the Pacific Islands. The book is most readable and well-planned by a widely known authority on the Pacific.

The author gives a concise explanation of the acquisition of our territories and a statement on the American policy toward "colonialism" in general before pursuing a discussion of individual islands and island groups.

Fortunately for the geographer offering a college level course on the Pacific this book stresses not Hawaii upon which numerous volumes have been written but other islands over which the United States has ownership or administrative responsibility. Until the past few years there has been a dearth of available information on these islands. Dr. Coulter writes with ease and assurance that comes with first hand knowledge and deep interest in an area. He treats each island or island group in a logical manner with discussions on history, natural

environment, population, agriculture, fishing, social customs and administrative procedures and problems.

The final chapter entitled "Retrospect and Prospect," although brief, is valuable in indicating accomplishments made in the Pacific over the past two decades and in pointing up some of the problems confronting American administrators.

The book contains twenty-two tables and charts, seventeen maps and climate graphs, and an adequate bibliography.

---John L. Taylor

Vertebrates of the United States. W. Frank Blair, Albert P. Blair, Pierce Brodkorb, Fred R. Cagle, and George A. Moore. McGraw-Hill Book Co., Inc. New York. 1957. ix and 819 pp. illust. $12.00.

This comprehensive, lucid and easily-used manual includes all known species of vertebrates found in the United States and adjacent waters. The background of the subject and the high standards of the book are established in the introduction written by W. F. Blair, Professor of Zoology at the University of Texas. He briefly traces the history of vertebrates from their earliest known occurrence in the Ordovician through over 400 million years of evolution. The basic characteristics are described, and the methods and system of classification are outlined. A general statement is given of the distribution in time and space of terrestrial and fresh-water animals, and the relation of this distribution to various factors of the physical environment. Following this explanatory groundwork, the book is divided into five parts, each dealing with a major division of the animal kingdom, and each arranged in the same general form, giving taxonomic keys, check lists, descriptions and identifying features, and the range and distribution of animals both geologically and as of today. Each part closes with a selected bibliography containing under the headings of "general" and "regional" many references of use to a geographer. Throughout the book emphasis is on species rather than subspecies.

The section on fishes with a complete listing of United States freshwater fishes, is by G. A. Moore, Professor of Zoology at Oklahoma A and M College. The amphibians--arboreal, terrestrial, subterranean and aquatic, are presented by A. P. Blair, Professor of Zoology at the University of Tulsa. Although the United States is slightly shortchanged by the anurans, having only 70 of the 1,500 known species, it fares better with the urodeles by having about 1/3 of the known species of salamanders, 3 of the 8 known families being confined to North America. Existing U. S. reptiles, described by F. R. Cagle of Tulane University, represent only 4 of the 15 or 16 main lines of evolution from early Carboniferous, but there are more than 7,000 living kinds. The evolution of birds from the reptiles, and the numerous orders, genera and species of birds are described by Professor Brodkorb of the Uni-

versity of Florida. W. F. Blair deals with the mammals, tracing their evolution and identifying the many species. Of the lone genus with its single species of primates found in the U. S. Dr. Blair says, "by virtue of relatively high intelligence capable of modifying and to some extent controlling environment." As members of this species and concerned primarily with the environment, geographers will find this book a useful reference.

National Atlas of India. The National Atlas Organization. The Ministry of Education and Scientific Research, Government of India. Dehra Dun, India. 1957.

Under the editorship of Professor S. P. Chatterjee, Director of the National Atlas Organization, a series of colored maps have been prepared showing the physical, economic and social aspects of India. The Atlas contains 26 sheets, including 21 maps of India on a scale of 1:5,000,000, 16 maps of India on a scale of 1:10,000,000, a one to sixty million scale map of the world, two maps of the two hemispheres at 1:80,000,000, 18 inset maps at 1:15,000,000 and 20 maps at 1:30,000,000. There are several other special inset maps, 4 maps of parts of India showing lithology and a reference map showing names in English. Explanatory notes are in both Hindi and English. English versions of the legends for all maps are given on a separate page. The Atlas is in loose-leaf form for easy handling. Each sheet is 26 inches by 30 inches and is folded in the middle. The price of the Atlas is Rs. 125/- or Rs. 100/- for the popular edition, exclusive of packaging and postal charges. Individual maps are for sale at Rs. 5/-. The Atlas may be obtained from the Director, Map Publication, Survey of India, Hathibarkala, Dehra Dun, India. Inquiries should be sent to the Director, National Atlas Organization, c/o Department of Geography, Calcutta University, Senate House, Calcutta 12.

Oceanographic Atlas of the Polar Seas, Part I: Antarctic. H. O. Pub. No. 705. U. S. Navy Hydrographic Office. Washington, D.C. 1957. vi and 70 pp. $2.50.

Because a considerable amount of environmental information on the polar seas has been accumulated and because the demand for such information in usable form is great, the U. S. Navy has compiled and published this atlas. This is the first of a series of oceanographic atlases planned by the Hydrographic Office to cover all ocean areas of the world.

Maps, charts and diagrams are used to show tide ranges and surface circulation, seasonal sea surface temperatures and air-sea temperature differences, sea surface salinity and density, areal extent of different kinds of sea ice and its duration, extreme limits of icebergs by seasons, mean sea ice conditions and limits of pack ice, details of observed ice conditions in the Ross Sea and Weddell Sea, surface wind

and state of the sea by seasons, seasonal swell conditions, generalized information on bottom sediments and coastal rock types, location of volancoes and earthquake epicenters, structural trends, characteristics of the deep scattering layer, distribution of kelp and other large algae, incidence and abundance of bioluminescence, occurrence of whales, and the distribution of oceanographic observations. Most of the maps carry reliability diagrams. Each of the six main sections has a brief explanatory introduction. A selected bibliography is included. A colored fold-in shaded relief map at the end of the volume shows the topography of the Antarctic Ocean floor and a generalized view of the continent.

The appearance of this useful reference atlas is most timely with increased attention being focused on the Antarctic during the International Geophysical Year. It provides a firm base on which to make the amplifications and refinements expected to result from the extensive IGY observations.

Visual Methods in Education. W. L. Sumner. Philosophical Library, Inc. New York. 2nd Ed. 1957. 231 pp. illust. $6.00.

The author, a Reader in Education at The University, Nottingham, states in his preface that his treatment has been focused upon the fundamental principles of visual methods and not upon an appreciation of the visual arts. He stresses the physical and psychological principles underlying the effective use of visual media in education. The practical effects of proper construction and utilization of visual equipment are often discussed in understandable but semi-technical terms. For example, the effectiveness of lenses in projection is explained in terms of depth of focus and size of shutter openings. The discussions of these technical aspects are not ends in themselves, however, since the author uses them to illustrate the need for careful selection of visual materials as media or tools to aid in the teaching of given phases or concepts. This book also provides an interesting means of comparison of the English and American approach to and research in visual methods. Any teachers might profit from reading this short but practical summarization of the principles that should govern the selection and use of visual media.

---Frances M. Hanson

Introduction to Statistical Reasoning. Philip J. McCarthy. McGraw-Hill Book Co., Inc. New York. 1957. xiii and 402 pp. illust. $5.75.

This textbook is concerned essentially with the use of descriptive statistics in the analysis of various aspects of social behavior. The major emphasis is on sampling. Geographers concerned with sampling problems will find the volume informative and useful although the treat-

ment of area sampling is extremely brief. Derivation of the principal formulas is handled carefully and simply and requires only a good knowledge of high school algebra on the part of the reader. Little attention is given to the measurement of association, especially where universes (rather than sample) are involved. Contingency, correlation and regression analysis are discussed very briefly and the analysis of variance is not considered; but the volume should provide a firm foundation, aptly related to research procedures, for the study of those topics.

---H. H. McCarty

Conserving American Resources. Ruben L. Parson. Prentice-Hall, Inc. Englewood Cliffs, New Jersey. 1956. xvii and 550 pp. illust. $6.50.

In this authoritative, readable and well illustrated volume, Dr. Parson has treated conservation of our resources in a manner "to acquaint thinking Americans with the broad categories of natural wealth upon which their well-being depends." He points out that each of us ought to be informed on conservation of natural resources, both perpetual and fugitive, to sustain our material and social cultures and heritages.

The author explains his view of conservation of natural resources as being the fullest possible use of them without abusing those exploited, without destroying any needlessly, and without neglecting any that can be used. Throughout his book, he emphasizes our renewable resources and devotes one or more chapters to each of water, soils, plants, animals, including marine life, and minerals. In his final chapter, the author charges the citizen-conservator with a patriotic responsibility to insure for himself, his children and his country a bright and prosperous future.

Over 200 photographs, maps, drawings, charts and graphs help to make the text intelligible to college students who have, or should have, a background in geography. The teacher and professor will be pleased with the excellent bibliography and 25 pages of classroom aids included in the text.

Conserving American Resources should receive wide acceptance among geographers and conservationists, as well as those persons who wish to acquaint themselves with a national issue about which we are hearing and reading so much.

---John L. Taylor

New Directions in Teacher Education. Paul Woodring. The Fund for the Advancement of Education. 477 Madison Avenue, New York 22, New York. August 1957. ix and 142 pp. Free.

This publication is an "Interim Report of the Work of the Fund for the Advancement of Education in the Areas of Teacher Education and Recruitment," and is another one of the bulletins financed by The Ford Foundation.

After an introductory chapter in which the author states the Fund's approach to the problem of teacher education, and a chapter on the two traditional points of view of teacher education in the United States, the author, in chapter III, states the four alternatives to the approach to the problem under the following headings: (1) a fifth year of professional training, (2) an increase of professional training in the liberal arts college, (3) universities should be encouraged to devise new programs which will incorporate the best thinking of both the academic and professional faculties, and, (4) teachers colleges can reorganize their course to provide better liberal arts programs. In chapter IV, problems of teacher education in light of present day needs are evaluated.

The appendix is a valuable contribution to the volume since it gives a detailed account of the institutions which have received Fund support and which have carried on research in teacher education.

Everyone engaged in teacher education will be interested in this publication and should secure a copy of it.

---Ina Cullom Robertson

Winter Weather Type Frequencies, Northern Great Plains. Wesley Calef, Melvin Lackey, John Trotter, Robert Lamb, and James Wray. Technical Report EP-64, Environmental Protection Research Division, Headquarters Quartermaster Research & Engineering Command, U. S. Army. Natick, Mass. August 1957. xvi and 260 pp. Free but supply limited.

What constitutes a Dakota blizzard? How can the blizzards of different years, or at different places, be compared? To answer these and related questions, Dr. Calef and his associates at the University of Chicago embarked, some six years ago, on an exhaustive study of winter weather conditions over the northern Great Plains of the United States. Inevitably they were compelled to develop a scheme for typifying each day according to the values of half-a-dozen weather elements. The result is an excellent example of complex climatology, the procedure developed three decades ago by E. E. Federov, and to a lesser extent by many others faced with similar problems. Although Federov's early works are listed in the extensive bibliography, they are not mentioned in the text, which implies that the system was developed ab initio.

After much experimentation, a 5-element, 1200-unit system of weather classifications was developed. Included are 10 temperature classes, 4 wind classes, 3 cloudiness classes, and 2 precipitation classes. The resulting 600-class table (excluding precipitation) is ingeniously arranged so that atmospheric cooling power increases systematically from upper right to lower left. This requires reversal of the order of the wind and humidity classes at higher temperatures, a minor inconvenience for a major gain.

The system was used to classify each day's weather for 10 winters,

1942-52, at Havre, Mont.; Bismarck, N. D.; Huron, S. D.; and Cheyenne, Wyo. The results are presented by months and seasons on special charts, and are discussed in bewildering detail. In addition, durations and characteristics are discussed for periods with temperatures constantly below freezing, for sequences of "frigid" days (maximum temperature below 7°F or minimum temperature below -120°F), and other aspects of winter weather. But no statistical analyses of such periods was attempted, although such "runs" of frigid and non-frigid days can be treated in the same way as those of dry and rainy periods.

A preliminary chapter, largely the work of Robert Lamb, presents and discusses cumulative graphs of daily maximum and minimum temperatures, by months, for the same period (1942-52) for the same four stations and eight others. The cumulative frequencies are presented on arithmetic normal probability paper, with uniform coordinates to facilitate comparison. Confidence bands for these graphs are stated, but the data themselves are not treated as samples; no effort is made to fit them by one or more analytic functions, from which exact probality inferences could be drawn.

Dr. Calef and his associates have learned a great deal about winter weather on the Great Plains, and have tried to impart most of it in this monograph. The wealth of material offers many examples for lectures, textbooks, or further research -- but it's pretty dull reading.

---Arnold Court

Trade Routes of Algeria and the Sahara. Benjamin E. Thomas. University of California Publications in Geography, Vol. 8, No. 3, pp. 165-288, illust. December 12, 1957. $2.50.

The study examines the development of trade routes in Algeria and the western Sahara and their interrelations with physical features and with the changing economic and political geography. Emphasis is placed upon the more recent phases of the subject, especially on the effects of World War II on transportation. For this part of the study, much of the information has come from interviews, records of transportation companies, and field work. For the historical geography of transportation before World War II, free use has been made of secondary sources in addition to the available primary material. The work centers attention on the routes, and considers the means of transportation and the traffic secondarily as they influence the origins, patterns, and importance of the routes. The broad correlations of trade and transportation with locations and climatic zones are matched by more detailed and more intricate interrelations between landforms and highways. The work is illustrated by 36 maps and two photographs. Highly recommended.

---Anthony S. Reyner

Planning, 1957; Selected Papers from the National Planning Conference, San Francisco, Calif., March 17-21, 1957. American Society of Planning Officials, 1313 E. 60th St., Chicago 37, Ill. October 1957. 260 pp. $5.00.

Many of the papers presented in this volume will hold interest for geographers, especially those concerned with the study of urban areas. In addition to papers on zoning, urban renewal, and metropolitan planning administration, there are sections dealing with transportation and a group of 5 papers which discuss the "Impact of the Federal Highway Program." William A. Robson, Professor of Administration, London School of Economics and Political Science, analyzed "Approaches to Metropolitan Government." Although not a topic that is specifically geographic, the keynote address by Dr. Harold Taylor, President of Sarah Lawrence College, on "Conservatism and American Culture," is an especially thought provoking consideration of America's place in the world, and a clear expression of responsibility of the intellectual.

---Bruce C. Ogilvie

Relief Form Atlas. Institut Geographique National, Paris. 1956. 179 pp. English translation.

Both the Ministry of Public Works and the Ministry of Education in France sponsored this very fine atlas, designed to provide teachers and students of geography with maps and aerial photographs depicting a wide range of relief forms. The resources of the National Institute of Geography were utilized in its making. This organization is one of the leading mapping agencies in the world, represented throughout the French Union and with its own fleet of aircraft.

Contour maps and aerial photos complement each other in illustrating to best advantage various geomorphological types. Further, some of the more striking maps and photos were prepared to employ binocular vision through the use of bi-colored glasses which accompany the volume.

The relief studies run a full gamut of examples, from simple stream erosion to multicycle relief on hard rocks. Attention is likewise given to the climatic factor, with examples of relief in arid and semi-arid lands, damp temperate lands, and others. To mention only a few, the regions selected include the High Alps of Southeastern France, the Jura, the Central Massif of France, the Atlas Mountains of Morocco, the Ahaggar in the Sahara, the Comoro Islands, and Terre Adelie in Antarctica.

It is especially interesting for an American geographer to go through these studies and identify relief forms shown with examples of similar relief found in the United States. The Rockies have their counterpart in the Alps and the Atlas Mountains; the Appalachians in the Jura; the Mississippi Delta in the Camargue; the Basin and Range Province in

northern Africa; and so on. Certainly the quality of this atlas is to date unchallenged by any comparable American study.

---G. Etzel Pearcy

Finding Fossil Man. Robin Place. Philosophical Library, Inc. New York. 1957. 126 pp. illust. $7.50.

As a book designed for the secondary school level, the author quite properly assumes the reader will have little or no background knowledge, and therefore devotes the first half of the book to descriptions of the order of mammals, where man fits in, the theory of evolution and the ways in which other vertebrates are related to humans. Following this, the author indicates how scientists have been able to reconstruct prehistoric man from fragmental evidence. In a lively and appealing fashion the principal prehistoric periods are described, and the life and times of the major fossil men are pictured. The famous Piltdown Man hoax is used as an example of the diligent detective work of archeologists and the methods they employ. Throughout, the book is written to keep the attention of the young reader and in a painless way present the fascinating story of early man and the techniques used in reconstructing his history.

Status of Topographic Mapping and Status of Aerial Photography. U.S. Geological Survey, Dept. of the Interior. January 1958. Free on request.

These two indexes for the United States show areas covered by topographic quadrangle maps produced by the Geological Survey and other Federal agencies, and all areas known to have been photographed by or for Federal, State and commercial agencies. The indexes may be obtained from the U. S. Geological Survey, Federal Center, Denver, Colorado, or Washington 25, D.C. State indexes and further information on current projects, availability of maps, aerial photographs, geodetic control data, and advance map materials can be obtained from the Map Information Office, U. S. Geological Survey, Washington 25, D. C.